स्वस्थवृत्त

PAPER II

PART B

सामाजिक स्वस्थवृत्त

CHAPTER I: PRATHAMIKA SVASTHYA SAMRAKSHANA / PRIMARY HEALTH CARE

- **Definition:**
  Primary Health Care (PHC) is an essential health care made universally accessible and acceptable to individuals through their full participation and at a cost the community and country can afford.

- **Principles of PHC:**
  - ▪ Equitable distribution – Irrespective of people, health care should be distributed equally.
  - ▪ Community participation – Involvement of government, individuals, families and communities in implementing health care services.
  - ▪ Inter sectoral coordination – Co-ordination of health sectors such as agriculture, housing, public workers, etc.
  - ▪ Appropriate technology – Usage of cheaper, scientifically valid and acceptable techniques.

- **Elements of PHC:** (According to Alma Atta declaration)
  - ▪ Education, prevention & control of health problems
  - ▪ Promotion of food supply & proper nutrition
  - ▪ Adequate supply of safe water & basic sanitation
  - ▪ MCH & Family Planning
  - ▪ Immunization against major infectious diseases
  - ▪ Prevention & control of local endemic diseases
  - ▪ Appropriate treatment of common diseases & injuries
  - ▪ Provision of essential drugs

- **Levels of Health Care**

  i) Village Level:

  - Village Health Guide Schemes:

  Health guide is a person with aptitude for social service and is not a full time government functionary. Presently, health guides are mostly women.

  - Training of local Dais:

  Under the rural health scheme, local dais is trained to conduct delivery.

  - ICDS Scheme / Anganwadi Worker: Integrated Child Development Services – there is an Anganwadi Worker for a population of 1.000.

  An Anganwadi Worker undergoes training in various aspects of health, nutrition & child development.

  - ASHA: Accredited Social Health Activist – ASHA must be resident of the village, female, preferable in the age group of 25-45 years, with formal education up to 8th standard, having communication skills & leadership qualities.

  ii) Sub-Center Level:

  One sub-center is established for every 5.000 population in the planes & one for every 3.000 population in hilly, tribal & backward area.

  iii) Primary Health Center (PHC) Level:

  PHC is the center which provides curative, preventive & promotive aspects of health. One PHC is established for every 30.000 rural population in the planes & one for every 20.000 population in hilly, tribal & backward areas.

  iv) Community Health Center (CHC) Level:

  Each CHC is covering a population of 80.000 to 1.2 lakh with 30 beds & specialists in surgery, medicine, obstetrics & gynecology, pediatrics with x-ray & laboratory facilities.

- **Health Insurance**

  Public health insurance is at present limited to industrial workers and their families. The central government employees are also covered by the health insurance under the banner “Central Govt. Health Scheme”.

  However, health insurance is a growing segment of India's economy. Especially the private sector of health insurance has been growing rapidly in the past couple of decades.

- **Private Agencies**

  The private sector is defined as those individuals and organizations providing health services or products that are not owned or directly controlled by the government. The private sector can be classified into subcategories: for-profit and not-for-profit, formal and informal, domestic and foreign. The subcategories represent a wide spectrum of entities with very different attributes and purposes.
  Nonetheless, private practice of medicine provides a large share of the health services that are available.

- **Voluntary Health Agencies**

  - Provide health care services to the community at large.
  - Promotes research works of the related field.
  - Creates awareness in people about health and related matters.
  - Special training for medical workers.

  <u>Examples of Voluntary Health Agencies in India:</u>

  - Indian Red Cross Society:
    - Improvement of health
    - Prevention of diseases
    - Disaster relief services
    - Blood banks
    - First aid services
    - Family planning

  - Indian Council for Child Welfare: Development of Indian children – physically, mentally, socially, morally and spiritually in a healthy & normal manner and in conditions of freedom and dignity.

  - Tuberculosis Association of India:
    - Prevention, control, treatment & relief of TB
    - Research & investigation on subjects related to TB

  - Bharat Sevak Samaj:
    - To help people to achieve health by their own actions and efforts.
    - Improvement of sanitation in villages

  - Family Planning Association of India (FPAI):
    - Reproductive and sexual health organization
    - Provision of information on sexual education and family life
    - Family planning

- Rockefeller Foundation:
  - ▪ International voluntary health agency since 1913
  - ▪ In India since 1920
  - ▪ Promote wellbeing of mankind throughout the world
  - ▪ Assistance and promotion for universities & post graduate institutions, professional education & research

- CARE: Cooperative for Assistance and Relief Everywhere – founded in North America in the wake of World War II in 1945. It is the world's largest independent, non-profit, non-sectarian international relief and development organization. CARE provides emergency aids and long term development assistance.
CARE began its operation in India in 1950.

- **NGOs = Non-Governmental Organizations**
  - Development and operation of infrastructure
  - Facilitating communication
  - Technical assistance and training
  - Research, monitoring and evaluation
  - Advocacy for and with the poor

  <u>Examples of NGOs in India:</u>
  - Freedom from Hunger: Works in 14 countries. It brings innovative and sustainable self-help solutions to fight against chronic hunger and poverty.
  - Agha Khan Foundation: Works in 11 countries. The program focuses on four major development areas = Health systems, Education, Rural development, Income generation
  - Save the Children Fund: Works in more than 70 countries. It was founded in 1919 to provide emergency relief to children suffering from malnutrition as a consequence of World War I. Health care, Education and Welfare are the three main areas of this organization.
  - Oxfam: Confederation of autonomous NGOs committed to fight poverty and injustice in the world and work in many developing countries.

- **AYUSH Sector**

  AYUSH deals with traditional Indian medicinal systems as well as alternative medicine.

  It includes: Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy

  Increased focus has been given to AYUSH to strengthen the Public Health System at all levels. AYUSH facilities have been co-located with 208 District Hospitals, 910 Community Health Centers and 3883 Primary Health Centers in India.

  Objectives:
  - To position AYUSH systems as the preferred systems of living and practice for attaining a healthy India.
  - To mainstream AYUSH at all levels in the Health Care System
  - To improve access to and quality of Public Health Delivery through AYUSH systems.
  - To focus on promotion of health and prevention of diseases by propagating AYUSH practices.
  - Research in AYUSH
  - Conservation and cultivation medicinal plants
  - Effective AYUSH drug administration

- **Role of Ayurveda in Primary Health Care**

  The Central Council for Research in Ayurveda Sciences (CCRAS), Ministry of AYUSH & Govt. of India are promoting research in Ayurveda on scientific lines and its utilization in Primary Health Care.

  Ayurveda focuses on the health of an individual which ultimately leads to a healthy society and community. Therefore, one of the main aims of Ayurveda is to promote Primary Health Care.

  Ayurveda, as the science of life, focuses on the protection of health in healthy individuals and the cure of diseases in diseased persons.

  Ayurveda promotes a healthy lifestyle by following various regimens such as Dinacharya, Ratricharya, Ritucharya, Ritu Shodhana and Sadvritta.

  Further it explains the importance of Pathya-ahara sevana, Nidra and Brahmacharya in relation to one's individual health. Also the concept of Rasayana sevana for a healthy and long life is given much importance in Ayurveda.

CHAPTER II: PARIVARA KALYANA YOJANA / FAMILY WELFARE PROGRAM

India launched the National Family Welfare Program in 1951 with the objective of reducing the birth rate to the extent necessary to stabilize the population at a level consistent with the requirement of the national economy.

❖ Demography

- Demography is the scientific study of human population.
- It focuses mainly on the study & observance of:
  a) Change in population size.
  b) Composition of the population.
  c) Distribution of the population in space.

- It also deals with five "demographic processes" which are continuously influencing the size, composition and distribution of a population.
  i) Fertility
  ii) Mortality
  iii) Marriage
  iv) Migration
  v) Social mobility

❖ Demographic Cycle

- There are five stages in the demographic cycle:

i) First stage:	High stationary stage. High birth rate & high death rate, where population is stationary. (E.g. India during 1920)
ii) Second stage:	Early expanding. Death rate begins to decline and birth rate remains the same. (E.g. Africa)
iii) Third stage:	Late expanding. Death rate decreases further along with decreasing birth rate. Birth exceeds death. (E.g. India, China)
iv) Fourth stage:	Low stationary. Low birth rate and low death rate resulting in stationary. (E.g. Denmark, Australia)
v) Fifth stage:	Declining stage. Population starts to decline because of lower birth rate than death rate. (E.g. Germany, Hungary)

❖ Life Expectancy

Life expectancy at a given age is the average number of years which a person of that age may expect to live, according to the mortality pattern prevalent in that country.
Life expectancy at birth has continued to increase globally over the years. For 1950-55, the combined life expectancy at birth for both sexes was 46.5 years. The increase has been more marked in less developed regions of the world than in the developed regions.

❖ Family Planning

WHO defined family planning as: "A way of thinking & living that is adopted voluntarily, upon the basis of knowledge, attitudes & responsible decisions by individuals & couples, in order to promote the health & welfare of the family group & thus contribute effectively to the social development of a country."

Family planning is the voluntary planning and action, taken by individuals or couples to prevent, delay or achieve a pregnancy.

Objectives:
- To avoid unwanted births.
- To bring about wanted births.
- To regulate the interval between pregnancies.
- To determine the number of children in the family.
- To control the time at which births occur in relation to the age of the parents.

Contraceptive methods:

a) Temporary:
- i) Barrier methods - Male / Female condom, Diaphragm & cervical cap, Vaginal contraceptives such as spermicidal creams & gels
- ii) Natural contraception - Abstinence, Coitus interruptus
- iii) Intrauterine devices - Chemical inert / Chemical active
- iv) Hormonal or steroidal contraception - Oral pills, Injectables, Implants

b) Permanent:
- i) Female sterilization – Tubectomy, Minilap operation, Laparoscopy
- ii) Male sterilization - Vasectomy

CHAPTER III: MATRU SHISHU KALYANA YOJANA / MATERNAL AND CHILD HEALTH CARE

❖ Introduction

Maternal and Child Health (MCH) Care is one of the main components declared at the Alma Atta Conference in 1978.

MCH Care services are free of charge and are available for women & children for preventive & curative cases. These services are provided by MOH, UNRWA and NGOs.

Aims of MCH Care:

- Re-education of maternal, perinatal, infant and childhood mortality and morbidity.
- Promotion of reproductive health.
- Promotion of physical and psychological development of the child and adolescent in the family.

Maternal Health:

- Provision of ante-natal care including regular examination, immunization, proper nutrition and self-care.
- Provision of safe delivery site
- Post-natal follow up
- Family planning services
- Health education

Child Health:

- Growth and development monitoring including proper nutrition with emphasis on breastfeeding.
- Early discovery of congenital abnormalities.
- Immunization
- Health education

❖ Ante-natal Care

Ante-natal care is the health care given to the pregnant women from the first month of pregnancy till the delivery time to insure safe pregnancy & delivery.

Objectives:

- To assure that every wanted pregnancy culminates in the delivery of a healthy baby without impairing the health of the mother.
- To maintain the mother and babies in the best possible state of health.
- To recognize abnormalities and complications at an early stage.
- To educate the mother in the physiology of pregnancy.

❖ Intra-natal / Natal Care

Natal care is the health care given to women during labor & childbirth.
Caring for women in labor demands sensitivity and awareness regarding the maternal awareness of labor and her needs.
Delivery sites should be hygienic, well equipped & have qualified trained caretakers.
The delivery sites may be hospitals, delivery hospitals, primary health care centers or maternity homes.
Natal care should not be limited to the delivered women but care should be given to the newborn at the same time.

❖ Post-natal / Post-partal Care

Post-natal care is the health care given to the mother after delivery. This can be broadly divided into care of mother & care of newborn.

Objectives:

- To prevent complications of post-partal period.
- To provide restoration of the mother to optimum health in case of complications.
- To check adequacy of breastfeeding.
- To provide family planning services.
- To provide basic health education to mother & family.

❖ Neo-natal Care

Neo-natal care is the health care given to the infant in the first 4 weeks after delivery.
Early neo-natal care refers to the first week of life which is the most crucial period.

Objectives:

- Establishment & maintenance of cardiac & respiratory functions.
- Maintenance of body temperature.
- Avoidance of infection.
- Establishment of satisfactory feeding regimen.
- Early detection & treatment of congenital disorders.

❖ Child Health Problems

1) Low birthweight: Low birthweight has been defined as a birthweight of less than 2.5 kg, the measurement being taken preferably within the first hour of life.

2) Malnutrition: Malnutrition is the most widespread condition affecting the health of children. At present, 65% of children in India under 5 years of age are underweight. This includes 43% moderate to severe cases, 16% severe malnutrition.
Malnutrition makes the child more susceptible to infections, recovery is slower & mortality is higher.

3) Infections & Parasitosis: Diarrhea, Respiratory infections, Measles, Pertussis, Polio, Neonatal tetanus, TB & Diphtheria are the leading childhood diseases.

4) Accidents & Poisonings: Burns, trauma, drowning, traffic accidents, poisoning as a result of home accidents.

5) Behavioral Problems: Behavioral problems are notable child related issues which are increasing and recognized in most countries.

❖ Indicators of MCH Care

1) Maternal mortality rate = Total number of female deaths due to complication of pregnancy, childbirth or within 42 days after deliver from "puerperal causes" in an area during a given year / Divided by total number of live births in the same area and year X 1000.

2) Mortality in infancy & childhood

a) Perinatal mortality rate = Late fetal deaths (28 weeks gestation & more) + early neonatal deaths (first week) in one year / Divided by number of live births in the same year X 1000.

b) Neonatal mortality rate = Number of deaths of children under 28 days of age in a year / Divided by number of live births in the same year X 1000.

c) Post-neonatal mortality rate

d) Infant mortality rate

e) 1-4 years mortality rate

f) Under 5 years mortality rate

h) Child survival rate

CHAPTER IV: PREVENTIVE GERIATRICS

- **Definition:** Preventive Geriatrics is the art and science of preventing diseases or complications in the geriatric population and promoting their health and efficiency.

- **Problems of Elderly**

1) Visual impairment:	Cataract
2) Skeletal disorders:	Degenerative changes, arthritis, spondylosis, etc.
3) Neurological problem:	reduction in nerve conduction, reduced cerebral circulation, reduced memory
4) CV problems:	Thickening of blood vessels, arrhythmia, HTN
5) Respiratory problems:	Asthma, bronchitis, decreased gas exchange, etc.
6) GIT problems:	Constipation, indigestion, decreased appetite, difficulty in chewing, dry mouth, etc.
7) Auditory problems:	Loss of hearing, hearing with difficulty
8) Mental problems:	Reduced memory, forgetfulness, confusion, fearfulness senile dementia, etc.
9) Social problems:	Loneliness, isolation, dependency, abuse

- **Prevention**

  Primordial prevention:
  - Dinacharya, Ritucharya, Sadvritta
  - Hita-ahara sevana, Rasayana sevana

  Primary Prevention:
  - Health education & exercise
  - Ritu anusara shodhana

  Secondary Pevention:
  - Check weight, stress, blood sugar & blood pressure
  - Early detection of complications & treatment
  - Panchakarma, esp. Bastikarma, Abhyanga, Svedana, Rasayana sevana
  - Hita-ahara sevana
  - Dietary supplements

  Tertiary Pevention:
  - Counseling
  - Rehabilitation
  - Welfare activities

- **Control Measures & Policies for Elders**

  1) National Policy for Older People:

  Objective: To provide following aspects for older citizens:
  - Financial security
  - Nutrition
  - Health care
  - Shelter
  - Protection of life and property

  2) National Council for Older Persons (NCOP):

  Objective: To improve quality of life of older people by:
  - More old age homes, day care centers
  - Improved pension
  - Improved travel related facilities; railway, airlines, state transport
  - Insurance schemes

  3) Help Age India:

  It is the largest voluntary organization working for the care of old people.

  It provides following support:
  - Mobile medicare units
  - Old age homes & day care centers
  - Disaster mitigation
  - Free cataract surgeries
  - Income generation
  - Adopt a grand-parent

CHAPTER V: WORLD HEALTH ORGANIZATION

- **Introduction:** World Health Organization (WHO) is a specialized, non-political health agency of the United Nation with headquarters at Geneva.
  Onset: April 1945, San Francisco
  Formal existence: 7th April 1948
  Every year, 7th April is celebrated as World Health Day.

- **Objectives:**
  ▪ The attainment by all people of the highest level of health.
  ▪ Health for all 2000 A.D. / HFA 2000

- **Principles:**
  ▪ Health is a state of complete physical, mental & social wellbeing and not merely the absence of disease or infirmity.
  ▪ Enjoyment of highest attainable standard of health by all without differentiation of race, religion, political belief, economic & social condition.
  ▪ Healthy development of children is of basic importance.
  ▪ Governments have responsibility for the health of their people.
  ▪ Eligibility for membership is open to all countries.

- **Structure:**

  i) The World Health Assembly
  - It is the Health Parliament and supreme governing body of WHO.
  - It meets annually in May at general headquarters in Geneva.
  - Functions:
    ▪ Determine international health policy
    ▪ Review work of past year
    ▪ Approve the budget for the following year

  ii) The Executive Board
  - 32 members, 1/3 of members are replaced each year.
  - It meets twice in a year, generally in January.
  - Functions:
    ▪ Review of decisions & policies
    ▪ Decisions for emergencies like epidemics, earthquakes, etc.

  iii) The Secretariat
  - Director General is the head and chief technical & administrative officer of WHO.
  - Provision of technical & managerial support for member states.

- **Functions:**
  - WHO acts as directing coordinating authority on all international health works.
  - Prevention & control of specific diseases.
  - Development of comprehensive health services.
  - Family health improvement.
  - Environmental health monitoring & protection.
  - Health statistics along with regular updates.
  - Support in bio-medical research.
  - Publication of health literature & information.
  - Cooperation with other organizations & agencies.

CHAPTER VI: INTERNATIONAL HEALTH AGENCIES

❖ United Nations Agencies

- The United Nations includes all major multilateral organizations. The term multilateral means that funding comes from multiple governments (as well as from non-government sources) and is distributed to many different countries.

- The United Nations (UN) is made up of 192 countries.
- It was set up in 1945, after World War II, as a way of bringing people together and to avoid further wars.
- The UN has four main objectives:
  - ▪ To keep peace throughout the world.
  - ▪ To develop friendly relations among nations.
  - ▪ To help nations work together to improve the lives of poor people, to conquer hunger, disease and illiteracy, and to encourage respect for each other's rights and freedoms.
  - ▪ To be a center for harmonizing the actions of nations to achieve these goals.

- **WHO = World Health Organization**
  (Refer to CHAPTER V)

- **UNICEF = United Nations International Children's Emergency Fund**
  Onset: 1946, Headquarters in New York City
  1954 UNICEF became a permanent part of the UN.
  Objectives: Long-term humanitarian and developmental assistance to children and mothers in developing countries.

- **UNDP = United Nation Development Program**
  Onset: 1966
  Objectives: Help poorer nations to develop their natural & human resources by supporting areas such as agriculture, industry, education, science, health and social welfare.

- **UNFPA = United Nations Fund for Population Activities**
  Onset: 1869
  Since 1974 assistance for India
  Objectives: To build up capacity to respond to the needs in population and family planning.

- **UNESCO = United Nations Educational, Scientific and Cultural Organization**
  Onset: 1945
  Objectives: Peace and security in the world by promoting collaboration among nations through education, science, culture and communication.

- **UNHCR = United Nations High Commission for Refugees**
  Onset: 1950
  Objectives: To provide protection and assistance to refugees.

- **UNIDO = United Nations Industrial Development Organization**
  Onset: 1966
  1985 UNIDO became a specialized agency of the UN.
  Objectives: To support developing countries in their fight against marginalization in today's globalized world.

- **UNAIDS**
  UNAIDS is a joint United Nations Program on HIV/AIDS. Partners of this program include: UNICEF, UNDP, UNFPA, UNDCP, UNESCO, WHO & the World Bank.

- **FAO = Food and Agriculture Organization**
  Onset: 1945, Headquarters in Rome
  Objectives:
  ▪ To improve nutrition of the people of all countries.
  ▪ To increase the efficiency of farming, forestry and fisheries.
  ▪ To widen the opportunity of all people for productive work.

- **ILO = International Labor Organization**
  Onset: 1919, Headquarters in Geneva
  Objectives:
  ▪ To improve the working and living conditions of the working population all over the world.
  ▪ To contribute to the establishment of lasting peace by promoting social justice.
  ▪ To promote economic and social stability.

- **World Bank**
  Onset: 1944
  Objectives: To raise the standard of living in the less developed countries by supporting various areas such as: electricity, transport, water supply, agriculture, health, welfare and population control.

❖ Health Work of Bilateral Agencies

Bilateral Agencies are organizations of industrialized nations to provide aid on a "country-to-country" basis, attempting to match a recipient's needs with the donor's objectives and capacity to assist.
Some bilateral agencies functioning in India are USAID, SIDA & DANIDA.

a) USAID = United Sates Agency for International Development

- Established in 1961
- Provides assistance to a large number of countries in the world.
- Support in several health programs in India such as:
  Control & eradication of malaria and other communicable diseases, water supply & sanitation, family planning, nutrition, medical nursing education.
- Massive assistance for AIDS / HIV control in India – APAC project in Tamil Nadu and AVERT project in Maharashtra are funded by USAID.

b) SIDA = Swedish International Development Agency

India has been a recipient of Swedish bilateral development assistance since 1964.
Its assistance is channeled through SIDA. The broad priority areas are:

- Poverty oriented projects in the primary health sector with special emphasis on reproductive health and rights of girls and women.
- Environment and urban development with focus on water & sanitation, and waste management, air & noise pollution.
- Mutual exchange and research cooperation in the field of knowledge and technology.

c) DANIDA = Danish International Development Assistance

- Funded by the Govt. of Denmark.
- It has supported many major activities in India related to health and education.
- Current support of DANIDA in India is focused on three major health programs:
  - DANLEP (DANIDA Assisted National Leprosy Eradication Program)
  - DANPCB (DANIDA Assisted National Program for Control of Blindness)
  - DANTB (DANIDA Assisted Revised National Tuberculosis Control Program)

❖ Alma Atta Declaration

- In 1978, International conference was held at Alma Atta (USSR).
- A new approach to health care came into existence as part of the health world assembly 1977 I.E. Health for all by 2000.
- The fundamental principle of HFA strategy is equality – equal health status for people & countries with an equitable distribution of health resources.
- Alma Atta conference brought the concept of 'Primary Health Care', especially to the vast majority of rural people & urban poor without health care facilities.
- Alma Atta declaration called to all governments to make national polices, strategies & plans of action to implement & sustain primary health care as an integral part of the national health system.

❖ National Health Policy (NHP)

- Policy is a system which provides the logical framework and rationality of decision making for the achievement of intended objectives.
- Public health policy improves conditions for people such as: Security, lifestyle, environment, housing, education, nutrition, childcare, reproduction health, transportation, information & communication, etc.
- The first formal NHP was formulated in 1983.

- Objectives of NHP:
  - ▪ To achieve an acceptable standard of good health amongst the general population of the country.
  - ▪ To increase access to the decentralizing public health system by establishing new infrastructure in deficient areas and by upgrading the infrastructure in existing institutions.
  - ▪ To enhance the contribution of the private sector in providing health service for the population group which can afford to pay for services.
  - ▪ To rationalize use of drugs within the allopathic system.
  - ▪ To increase access to tried and tested systems of traditional medicine.

- Goals to be achieved by 2000-2015:
  - ▪ 2003: Enactment of legislation for regulating minimum standard in clinical establishment /medical institution.
  - ▪ 2005: Eradication of Polio & Yaws.
    Elimination of Leprosy.
    Establishment of an integrated system of health surveillance, National Health Accounts, Health Statistics.
    1% of the total budget for medical research.
  - ▪ 2007: Achieve of zero level growth of HIV / AIDS
  - ▪ 2010: Elimination of Kalar-Azar.
    Reduction of mortality by 50% on account of TB, Malaria, and other vector & water borne diseases.
    Increase health expenditure by govt. from 0.9% - 2.0% of GDP.
    2% of the total health budget for medical research.
  - ▪ 2015: Elimination of lymphatic filariasis.

CHAPTER VII: HEALTH STATISTICS

- **Definition:** Health and medical statistics are numbers about some aspect of health. These may include vital, morbidity or mortality statistics or data related to health care cost.

- **Sources:**
  - ▪ Experiments performed in the laboratory
  - ▪ Surveys and epidemiological investigations
  - ▪ Records such as birth and death registers or hospital records

- **Uses:**
  - ▪ To define normalcy.
  - ▪ To test whether the difference between two populations, regarding a particular attribute, is real or a chance occurrence.
  - ▪ To study the correlation or association between two or more attributes in the same population.
  - ▪ To evaluate the efficacy of vaccines, sera, etc.
  - ▪ To locate, define and measure the extent of morbidity and mortality
  - ▪ To evaluate the achievements of public health programs

- **Data Collection**

  <u>i) Primary Data</u>

  These are new data, collected for the first time and thus are original.

  It may be collected through following methods:

  - Observation
  - Interview
  - Questionnaires
  - Schedules
  - Warranty cards
  - Consumer panels
  - Content analysis
  - Etc.

ii) Secondary Data

These are data which have already been collected by someone else and which have passed through the statistical process before.

When the researcher utilizes secondary data, then he has to look into various sources from where he can obtain them. Secondary data may either be published or unpublished data.

Published data are available in:

- various publications of the central, state or local governments.
- various publications of foreign governments or organizations.
- technical & trade journals.
- books, magazines & newspapers.
- historical documents.
- public records & statistics.

- **Classification & Presentation**

i) Tabulation

Tabulation is used to present data from a mass of statistical data.

It is essential because of the following reasons:

- It conserves space and reduces explanatory & descriptive statement to a minimum.
- It facilitates the process of comparison.
- It facilitates the summation of items and the detection of errors & omissions.
- It provides a basis for various statistical computations.

Types: a) Master Table
b) Simple Table
c) Frequency Distribution Table

ii) Drawing

Drawing is a graphical presentation of data. It includes various forms of diagrams.

It is useful for:

- giving a visual impression of the data.
- studying hidden patterns or relationships.
- identifying outliers or extreme observations.
- easy and quick understanding.

Types: a) Histogram
b) Frequency polygon
c) Frequency curve
d) Bar diagram
e) Pie / Sector chart
f) Pictogram
g) Map diagram
h) Spot map

- **Vital Statistics**
  Vital statistics are conventionally numerical records of marriage births, sickness and death by which the health and growth of the community can be inferred.
  Use of Vital statistics:
  - To evaluate the impact of various national health programs.
  - To plan for better future measures of disease control.
  - To explain the hereditary nature of diseases.
  - To plan and evaluate economic and social development.
  - It is a primary tool in research activities.

- **Morbidity Rate**
  Morbidity rate is the frequency or proportion with which a disease appears in a population, related to a specified period of time.
  Morbidity rates are used in actuarial professions, such as health insurance, life insurance, and long-term care insurance to determine the premiums to charge to customers.

- **Mortality Rate**
  Mortality rate is the number of deaths in a given area or period, or from a particular cause.
  E.g.:
  - Fetal mortality rate: The ratio of fetal deaths to the sum of the births in that year.
  - Infant mortality rate: The number of children dying under a year of age divided by the number of live births that year.
  - Maternal mortality rate: The number of maternal deaths related to childbearing divided by the number of live births in that year.

- **Fertility Rate**
  Fertility rate refers to the number of live births in women over a specific length of time.
  - GFR = General Fertility Rate: Number of live births per 1000 women in the reproductive age group (15-49 years) in a given year.

  - GMFR = General Marital Fertility Rate: Number of live births per 1000 married women in the reproductive age group (15-49 years) in a given year.

  - TFR = Total Fertility Rate: Average number of children that would be born to a woman if she experiences the current fertility pattern throughout her reproductive span (15-49 years).

  - TMFR = Total Marital Fertility Rate: Average number of children that would be born to a married woman if she experiences the current fertility pattern throughout her reproductive span (15-49 years).

  - GRR = Gross Reproduction Rate: Average number of daughters that would be born to a woman if she experiences the current fertility pattern throughout her reproductive span (15-49 years).

  - NR = Net production Rate: Average number of daughters that would be born to a woman if she experiences the current fertility and mortality patterns throughout her reproductive span (15-49 years).

  - Age-Specific Fertility Rate: Number of live births in a year to 1000 women in any specified age group.

- **Health Survey**
  A health survey is basically a program for studying a population or a particular segment of a population in order to assess its health problems or to detect conditions to which preventative measures may be applied.

CHAPTER VIII: SVASTHYA PRASHASANA / HEALTH ADMINISTRATION

The health system in India has three links:
1. Central
2. State
3. District / Local

1. At the Central Level
The central responsibility consists mainly of policy making, planning, guiding, assisting, evaluating and coordinating the work of state health ministers, so that health services cover every part of the country and no state lags behind for these services.

a) Union Ministry of Health and Family
b) Director General of Health Services
c) Central Council of Health and Family

These are the official organs at the central level which are responsible for various health related subjects such as:
- International health relations
- Medical research
- Development of medical pharmaceutical, dental and nursing standards
- Establishment & maintenance of drug standards
- Immigration & Emigration
- Post-graduate training in national institutions
- National health program
- National medical library

2. At the State Level
India is a union of 28 states. Each state has its own system of health care delivery.
The state health administration was started in the year 1919.
Responsibilities of the individual state include:
- Provision of medical care
- Preventive health services
- Pilgrim within the state

3. At the District Level

District health organization identifies and provides the needs of expanding rural health and family welfare program. Within each district, there are 6 types of administrative areas.

i) Sub-divisions
ii) Tehsils
iii) Community development blocks
iv) Municipalities and corporations
v) Village
vi) Panchayats

▪ At the Village Level

a) The Gram Sabha: It is the assembly of all the adults of the village, which meets at least twice a year. It considers proposals for taxation, discusses the annual program and elects members of the Gram Panchayat.

b) The Gram Panchayat: It is the executive organ of the Gram Sabha. It is responsible for planning and development at the village level.

▪ AYUSH

AYUSH deals with traditional Indian medicinal systems as well as alternative medicine. It includes: Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy
Increased focus has been given to AYUSH to strengthen the Public Health System at all levels. AYUSH facilities have been co-located with 208 District Hospitals, 910 Community Health Centers and 3883 Primary Health Centers in India.

CHAPTER IX: NATIONAL HEALTH PROGRAMS

❖ Tuberculosis & Revised National Tuberculosis Control Program (RNTCP)

- Tuberculosis:

Definition:

Tuberculosis is defined as an infectious disease, caused by mycobacterium, that most commonly affects the lungs.

Source of infection:

- Human source
- Bovine source

Mode of spread:

TB germs are passed through the air when a person, who is sick with TB disease coughs, sings, sneezes or laughs. To become infected with TB germs, a person usually needs to share air space with someone sick with TB disease.

TB germs do not spread through quick or casual contact, by sharing utensils, food, cigarettes or drinking containers. They do not spread by exchanging saliva or other body fluids, by shaking hands or use of public telephones.

Incubation period:

2-12 weeks from infection to development of a positive TB skin test reaction.

The risk for developing active disease is the highest in the first 2 years after infection.

Common Symptoms of TB:

- Cough (2-3 weeks or more)
- Cough with blood
- Chest pain
- Evening raising fever
- Night sweats
- General weakness & tiredness
- Weight loss
- Decreased or no appetite

TB in India:

- Yearly 1.8 million persons (5.000/day) develop TB in India. Out of those, 0.8 million are new smear +ve cases and 0.13 million cases of multi drug resistance.
- Mortality of 0.32 million cases each year in India.
- Annual risk of being infected with TB is 1.5% and once infected 10% lifetime risk of developing TB.
- 2 out of every 5 Indians are infected with TB bacillus.
- 5% of TB patients are HIV +ve.

- Revised National Tuberculosis Control Program (RNTCP)

Onset:

- 1962 = National Tuberculosis Program (NTP)
- 1993 = Revised National Tuberculosis Control Program (RNTCP)

Objective:

- Long term objectives = One TB case infects less than one new person annually; Infection in the age group below 14 years is brought down to less than 1%.
- Short term objectives = To detect maximum number of TB cases & to treat them effectively; to vaccinate new born & infant with BCG.

Prevention & Control of TB:

- Medical interventions = Chemotherapy, Chemoprophylaxis, Immunoprophylaxis, Treatment of HIV / AIDS cases, NACO guidelines to prevent HIV infection, Patients with Silicosis are screened every 6 months and treated for TB when necessary, Surgery for extra pulmonary TB.
- Non-medical interventions = Exercise, Nutrition, Health education, Intervention to reduce poverty & economic condition, Incentives

❖ National Leprosy Eradication Program (NLEP)

Onset:

- 1955 = National Leprosy Control Program (NLCP)
- 1983 = National Leprosy Eradication Program (NLEP)

Objective:

- NLCP = To control leprosy through domiciliary Dapsone Monotherapy.
- NLEP = To eradicate leprosy as a public health problem by the year 2000.

Failure of NLCP:

- Social obstacles
- Non-availability of drugs
- Lack of primary prevention (vaccination)
- Leprae resistance to Dapsone

Multi Drug Therapy (MDT):

- Dapsone = 100mg daily (self-administered)
- Rifampicin = 600mg once in a month (under supervision)
- Clofazimine = 300mg once in a month (under supervision)
  50mg daily (self-administered)

❖ National AIDS Control Program (NACP)

Onset:

- 1987
- 1992-1999 = Phase I of NACP
- 1999-2004 = Phase II of NACP

Objective:

- Phase I = Prevention & control of AIDS, Reduce the spread of HIV, Raising awareness of HIV & AIDS.
- Phase II = Improve voluntary counselling and testing (VCT) rather than mandatory testing, Reduce the spread of HIV, Strengthen the capacity to respond to HIV / AIDS on a long-term basis.

❖ National Program for Control of Blindness (NPCB)

Onset: 1976

Objective:

- To reduce blindness.
- To develop eye care facilities in every district.
- To secure participation of voluntary organization in eye care.
- To enhance community awareness on eye care.

❖ Pulse Polio Immunization (PPI) Program

Onset: 1995

Objective: To immunize children & achieve 100% coverage under Oral Polio Vaccine.

Strategies:

- Impart and maintain high level of routine immunization of infants.
- Pulse polio immunization.
- Acute flaccid paralysis (AFP) surveillance to detect final reservoirs of wild polio virus infection.
- Mop-Up immunization

With the global initiative of eradication of polio in 1988, PPI Program was launched in India in 1995.

Children in the age group of 0-5 years are administered with polio drops during National and Sub-national immunization rounds every year. About 172 million children are immunized during each National Immunization Day (NID).

The last polio case in India was reported from Howrah district of West Bengal with date of onset 13th January 2011. Thereafter no polio case has been reported in India.

On 24th February 2012, WHO removed India from the list of countries with active endemic wild polio virus transmission.

❖ National Diabetes Control Program (NDCP)

Onset: 1987, 7th Five-year plan, Tamil Nadu, J & K and Karnataka

Objective:
- To prevent and control Diabetes Mellitus.
- Prevention of acute and chronic complication of DM (cardiovascular, renal, ocular, metabolic).
- Rehabilitation of those partially or totally handicapped diabetes people.

Strategies:
- Prevention by identification of high risk subjects and early intervention in the form of health education.
- Early diagnosis and appropriate treatment.

❖ National Cancer Control Program (NCCP)

Onset: 1975, amended in 1984

Objective:
- Primary prevention of cancer by health education.
- Secondary prevention of cancer by early detection & diagnosis.
- Strengthening of existing cancer treatment facilities.
- Palliative care in terminal stage of cancer.

Cancer is an important public health problem with 7-9 lakh cases occurring every year in India. There an estimated amount of nearly 25 lakh cancer patients in the country. Every year about 4 lakh deaths occur due to cancer.
40% of the cancers in the country are related to tobacco use.

For data base of cancer cases, National Cancer Registry Program (NCRP) was initiated in 1982. Its data indicate the leading sites of cancer as follows:
In men = Oral cavity, lungs, oesophagus, stomach
In women = uterine cervix, breast, oral cavity

❖ National Guinea Worm Eradication Program

Onset: 1984 by Indian Govt. with technical assistance from WHO

Objective: Eradication of guinea worm.
-> India was able to significantly reduce the disease in affected areas.
-> The country has reported zero cases since August 1996.

Dracunculiasis, also known as guinea worm disease (GWD), is an infection caused by the parasite Dracunculus medinensis. A parasite is an organism that feeds off another organism to survive. GWD is spread by drinking water containing guinea worm larvae.

❖ National Vector Borne Disease Control Program (NVBDCP)

Onset: 2003-04 by merging National Anti-Malaria Program (NAMP), National Filaria Control Program (NFCP) & Kala-Azar Control Program

Objective:
- To prevent & control major vector borne diseases such as: Malaria, Filariasis, Kala-Azar, Japanese B Encephalitis, Dengue/DHF
- To improve quality & efficiency of services at primary, secondary and tertiary levels.

Strategies:
- Disease management
- Insecticide resistance assessment
- Involvement of NGOs / Private sector / Community
- Environmental management
- Monitoring & Evaluating

❖ National Rural Health Mission (NRHM)

Onset: April 5, 2005 – launched for a period of 7 years, 2005-2012

Objective:
- To provide accessible, affordable, accountable, effective and reliable primary health care.
- Necessary changes in the basic health care delivery system.
- Improvement of nutrition, sanitation, hygiene & safe drinking water.
- Introduce & include the traditional Indian systems of medicine (AYUSH) to the mainstream of health care.

❖ Reproductive and Child Health (RCH) Program

Onset: 15th October, 1997

Reproductive and Child Health approach is defined as:
"People have the ability to reproduce and regulate their fertility, women are able to go through pregnancy and their birth safely, the outcome of pregnancy is successful in terms of maternal and infant survival and wellbeing and couples are able to have sexual relations free of fear of pregnancy or of contracting disease."

Highlights of the program:
- Prevention & provision of specialist services for STP (Sexual Transmitted Diseases) & RTI (Reproductive Tract Infection).
- Essential & emergency obstetric care. 24-hour delivery services at PHCs/CHCs.
- Essential newborn care.
- Medical Termination of Pregnancy (MTP)
- Provision of drug and equipment kits at various levels.
- Prevention and control of Vitamin A deficiency in children.
- Prevention and control of Anemia in children.
- Universal Immunization Program (UIP)

❖ Universal Immunization Program (UIP)

Onset:
- 1974 = Expended Program on Immunization (EPI) by WHO – launched in India in 1978.
- 1985 = Universal Immunization Program (UIP), dedicated to the memory of Indira Gandhi.

Objective:
- EPI = To protect all children of the world against the following six vaccine-preventable diseases: Diphtheria, Pertussis (Whooping cough), Tetanus, Polio, Tuberculosis & Measles
- UPI = To reduce the mortality & morbidity resulting from vaccine-preventable diseases of childhood.

A) For infants:	
- At birth (for institutional deliveries)	- BCG (Bacille Calmette-Guerin) & OPV-0-dose
- At 6 weeks	- BCG (if not given at birth), DPT-1, OPV-1 & Hepatitis B-1
- At 10 weeks	- DPT-2, OPV-2 & Hepatitis B-2
- At 14 weeks	- DPT-3, OPV-3 & Hepatitis B-3
- At 9 months	- Measles
B) At 16-24 months	- DPT (Diphtheria Pertussis Tetanus) & OPV (Oral Polio Vaccine)
C) At 5-6 years	- DT (Diphtheria Tetanus)
D) At 10 & 16 years	- TT (Tetanus Toxoid)
E) For pregnant women	
- Early in pregnancy	- TT-1 / Booster
- One month after TT-1	- TT-2

CHAPTER X: NATIONAL NUTRITIONAL PROGRAMS

❖ Iodine Deficiency Disorder (IDD) Program / Iodine Deficiency Control Program (IDCP)

- **Onset:** 1962 by Indian Govt. as Goiter Control Program
- **Objective:** To identify goiter endemic area to supply iodized salt instead of common salt and to assess the impact of goiter control measures. In 1986 IDD Program re-strengthened to replace the entire editable salt by iodide salt by 1992.

❖ Vitamin A Prophylaxis Program

- **Onset:** 1970 by Ministry of Health and Family Welfare
- **Objective:** To prevent blindness due to Vitamin A deficiency.
- **Administration:**
  - A single massive dose of oily preparation of Vitamin A 200,000 IU (Retinol palmitate 110mg) orally every 6 months for every preschool child above 1 year.
  - Half amount in children between 6 months to 1 year.

❖ Mid-Day Meal Program

- **Onset:** 1961 – School Lunch Program, by Ministry of Education
- **Objective:** To improve school attendance, reduce school drop outs, beneficial impact on nutritional status of children
- **Administration:**
  - 1/3 total energy requirement per day & 1/2 total protein requirement per day.
  - Reasonably low cost
  - Easily prepared at schools
  - Varieties of food menu

❖ Nutritional Anemia Control Program

- **Onset:** 1970 by Ministry of Health and Family Welfare
- **Objective:**
  - To reduce nutritional anemia regardless of its cause
  - Monitoring of anemic cases & advice prophylaxis
- **Administration:**
  - Pregnant women = 100mg Fe & 0.5mg folic acid for 100 days
  - Children 6-60 months = 20mg Fe & 0.1 mg folic acid for 100 days
  - Adolescent girls = 100mg Fe & 0.5mg folic acid for 100 days
  - Children 1-5 years = Iron fortification in salt